

What Is Claimed Is:

sub 45 } 1. An inspection method for simultaneously inspecting a plurality of semiconductor devices each having a terminal for an input signal, comprising the steps of:

5 preparing a driver for outputting a signal to be used for inspection;

connecting an output terminal of said driver to a branching point;

connecting each of the terminals of the  
10 semiconductor devices and the branching point through a current limiting element and a capacitor connected in parallel to said current limiting element; and

outputting a signal from said driver toward said branching point.

2. An inspection method according to claim 1, wherein a resistor is used as said current limiting element.

3. An inspection method according to claim 2, wherein resistance value of said resistor is set equal to or higher than 10  $\Omega$ .

4. An inspection method according to claim 1,

wherein capacitance value of said capacitor is set equal to or higher than input capacitance value of the terminal to be connected.

5. An inspection method according to claim 1, wherein dc input resistance value of each of the terminals is equal to or higher than 0.1 M $\Omega$ .

6. An inspection method according to claim 1, wherein the semiconductor devices operate in synchronism with an external clock, and frequency of the external clock is equal to or higher than 10 MHz.

7. An inspection method for simultaneously inspecting a plurality of semiconductor devices each having a first terminal and a second terminal each for an input signal, comprising the steps of:

5 preparing a first driver for outputting a signal to be used for inspection;

preparing second drivers each for outputting a signal to be used for inspection;

10 connecting an output terminal of said first driver to a branching point;

connecting each of the first terminals of the semiconductor devices and the branching point through a current limiting element and a capacitor connected in parallel to said current limiting element;

15 connecting output terminals of said second  
drivers and the second terminals one by one to each  
other; and  
outputting a signal from said first driver  
toward said branching point and outputting another signal  
20 from said second drivers to said second terminals.

8. An inspection method according to claim 7,  
wherein a resistor is used as said current limiting  
element.

9. An inspection method according to claim 8,  
wherein resistance value of said resistor is set equal to  
or higher than 10  $\Omega$ .

10. An inspection method according to claim 7,  
wherein capacitance value of said capacitor is set equal  
to or higher than input capacitance value of the terminal  
to be connected.

11. An inspection method according to claim 7,  
wherein dc input resistance value of each of the  
terminals is equal to or higher than 0.1 M $\Omega$ .

12. An inspection method according to claim 7,  
wherein the semiconductor devices operate in synchronism  
with an external clock, and frequency of the external

clock is equal to or higher than 10 MHz.

13. An inspection method according to claim 12, wherein said external clock is supplied to the second terminals through the second drivers.

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14. An inspection apparatus for simultaneously inspecting a plurality of semiconductor devices each having a terminal for an input signal, comprising:

5 inspection;

a driver for outputting a signal to be used for

a branching point to which an output terminal of said driver is connected;

a current limiting element interposed between each of the terminals of the semiconductor devices and

10 said branching point; and

a capacitor connected in parallel to each of the current limiting elements.

15. An inspection apparatus according to claim 14, wherein said branching point, the current limiting elements and the capacitors are provided in a probe card or a test board for connecting semiconductor device to be

5 inspected to a tester.

16. An inspection apparatus according to claim 14, wherein said current limiting element is a resistor.

17. An inspection apparatus according to claim 16, wherein resistance value of said resistor is equal to or higher than 10  $\Omega$ .

18. An inspection apparatus according to claim 14, wherein capacitance value of said capacitor is equal to or higher than input capacitance value of the terminal to be connected.

19. An inspection apparatus according to claim 14, wherein said current limiting element is a thermistor.

20. An inspection apparatus according to claim 14, wherein said current limiting element is a variable resistor, and said capacitor is a variable capacitor.

21. An inspection apparatus for simultaneously inspecting a plurality of semiconductor devices each having a first terminal and a second terminal each for an input signal, comprising of:

5                   a first driver for outputting a signal to be used for inspection;

                  second drivers each for outputting a signal to be used for inspection;

                  a branching point to which an output terminal  
10 of said first driver is connected;

a current limiting element interposed between each of the first terminals of the semiconductor devices and said branching point through; and

15 a capacitor connected in parallel to said current limiting element;

wherein output terminals of said second drivers and the second terminals are connected one by one to each other.

22. An inspection apparatus according to claim 21, wherein said branching point, the current limiting elements and the capacitors are provided in a probe card or a test board for connecting semiconductor device to be  
5 inspected to a tester.

23. An inspection apparatus according to claim 21, wherein said current limiting element is a resistor.

24. An inspection apparatus according to claim 22, wherein resistance value of said resistor is equal to or higher than 10  $\Omega$ .

25. An inspection apparatus according to claim 21, wherein capacitance value of said capacitor is equal to or higher than input capacitance value of the terminal to be connected.

26. An inspection apparatus according to claim 21, wherein said current limiting element is a thermistor.

27. An inspection apparatus according to claim 21, wherein said current limiting element is a variable resistor, and said capacitor is a variable capacitor.

28. An inspection apparatus according to claim 21, further comprising means for supplying a clock signal of a frequency equal to or higher than 10 MHz to said second terminals.

29. An inspection apparatus according to claim 21, wherein the second drivers supplies a clock signal of a frequency equal to or higher than 10 MHz to said second terminals.